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Elevated levels of cyclin D1 protein in response to increased expression of eukaryotic initiation factor 4E

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Cyclin D1 is a G1-specific cyclin that has been linked to lymphoid, parathyroid, and breast tumors. Recent studies suggested that high protein levels of cyclin D1 are not always produced when cyclin D1 mRNA is overexpressed in transfected cells, suggesting that posttranscriptional events may be important in cyclin D1 regulation. The mRNA cap-binding protein (eukaryotic initiation factor 4E [eIF-4E]) is a potential regulatory of several posttranscriptional events, and it can itself induce neoplastic transformation. Consequently, we examined eIF-4E as a potential regulator of cyclin D1. Overexpression of cyclin D1 mRNA in NIH 3T3 cells did not increase cyclin D1 protein. In contrast, overexpression of eIF-4E markedly increased the amount of cyclin D1 protein in NIH 3T3 cells. This increase was specific to cyclin D1 in comparison with the retinoblastoma gene product, c-Myc, actin, and eukaryotic initiation factor 2 alpha. We also examined cyclin D1 protein in cells expressing an estrogen receptor-Myc fusion protein because we previously found that eIF-4E increases after induction of c-myc function. In these cells, increased levels of eIF-4E protein were closely followed by increases in levels of cyclin D1 protein, but the level of cyclin D1 mRNA was not increased. We conclude that increases in cyclin D1 levels may result from increased expression of eIF-4E, and this regulation may be one determinant of cyclin D1 levels in the cell.

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L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
AN 2001:886834 CAPLUS

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TI Methods for defining MYC target genes, and of inducing or
repressing expression of MYC target genes, and uses in

diagnosis, therapy and drug screening

IN Collier, Hilary A.; Gohil, Todd R.; Grandori, Carla; Tamayo, Pablo;
Colbert, Trenton; Eisenman, Robert

PA Whitehead Institute for Biomedical Research, USA

SO U.S. Pat. Appl. Publ., 17 pp.

CODEN: USXXCO

DT Patent

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PATENT NO. KIND DATE APPLICATION NO. DATE

PI US 2001049393 A1 20011206 US 2000-732998 20001207

PRAI US 1999-169522P P 19991207

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AN 2001:886834 CAPLUS

DN 136:1748

TI Methods for defining MYC target genes, and of inducing or repressing
expression of MYC target genes, and uses in diagnosis, therapy and drug

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DT Patent

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PATENT NO. KIND DATE APPLICATION NO. DATE

PI US 2001049393 A1 20011206 US 2000-732998 20001207

PRAI US 1999-169522P P 19991207

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L10 ANSWER 1 OF 14 MEDLINE

TI Genetic interactions of yeast eukaryotic translation initiation factor 5A
(EIF5A) reveal connections to poly(A)-binding protein

and protein kinase C signaling

SO GENETICS. (2002 Feb) 160 (2) 393-405.

Journal code: 0374636. ISSN: 0016-6731.

Journal code: 0374636. ISSN: 0016-6731.

Journal code: 0374636. ISSN: 0016-6731.

Journal code: 0374636. ISSN: 0016-6731.

L10 ANSWER 2 OF 14 MEDLINE

TI "Tissue" transglutaminase expression in HIV-infected cells: an enzyme
with

an antiviral effect?

SO ANNALS OF THE NEW YORK ACADEMY OF SCIENCES. (2001
Nov) 946 108-20. Ref

69

Journal code: 7506858. ISSN: 0077-8923.

Journal code: 7506858. ISSN: 0077-8923.

Journal code: 7506858. ISSN: 0077-8923.

L10 ANSWER 3 OF 14 MEDLINE

TI Human deoxythymine synthase: interrelationship between binding
of NAD and substrates.

SO BIOCHEMICAL JOURNAL. (2000 Dec 15) 352 Pt 3 851-7.

Journal code: 2984726R. ISSN: 0264-6021.

Journal code: 2984726R. ISSN: 0264-6021.

Journal code: 2984726R. ISSN: 0264-6021.

Journal code: 2984726R. ISSN: 0264-6021.

Journal code: 2984726R. ISSN: 0264-6021.

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Journal code: 2984726R. ISSN: 0264-6021.

Journal code: 2984726R. ISSN: 0264-6021.

substrate, the eukaryotic translation initiation factor 5A (EIF5A) precursor.

SO BIOCHEMICAL JOURNAL, (1999 May 15) 340 (Pt 1) 273-81.
Journal code: 2984726R. ISSN: 0264-6021.

L10 ANSWER 5 OF 14 MEDLINE
TI Identification of tyrosine 50 of yeast deoxythymine synthase as the site of enzyme intermediate formation.
SO YEAST, (1999 Jan 15) 15 (1) 43-50.
Journal code: 8607637. ISSN: 0749-503X.

L10 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2002 ACS
TI The pattern of gene expression in human CD34+ stem/progenitor cells
SO Proceedings of the National Academy of Sciences of the United States of America (2001), 98(24), 13966-13971
CODEN: PNAS46; ISSN: 0027-8424

L10 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2002 ACS
TI Methods for defining MYC target genes, and of inducing or repressing expression of MYC target genes, and uses in diagnosis, therapy and drug screening
SO U.S. Pat. Publ., 17 pp
CODEN: USXXCO

L10 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2002 ACS
TI Colocalization requirements for nuclear export of rev response element (RRE)- and constitutive transport element (CTE)-containing removal RNAs: an unexpected role for actin
SO Journal of Cell Biology (2001), 153(5), 895-910
CODEN: JCLBAA; ISSN: 0021-9525

L10 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2002 ACS
TI Effects of estrogen on global gene expression: identification of novel targets of estrogen action
SO Cancer Research (2000), 60(21), 5977-5983
CODEN: CRRS48; ISSN: 0008-5472

L10 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2002 ACS
TI Interaction of eukaryotic initiation factor 5A with the human immunodeficiency virus type 1 Rev response element RNA and U6 snRNA requires deoxythymine or thymine modification
SO Biological Signals (1997), 6(3), 166-174
CODEN: BSHIEH; ISSN: 1016-0922

L10 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2002 ACS
TI Inhibition of HIV-1 replication in lymphocytes by mutants of the Rev cofactor eIF-5A
SO Science (Washington, D. C.) (1996), 271(5257), 1838-60
CODEN: SCIEAS; ISSN: 0036-8073

L10 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2002 ACS
TI Effects of translation initiation factor eIF-5A on the functioning of human T-cell leukemia virus type 1 Rex and human immunodeficiency virus Rev inhibited trans dominantly by a Rex mutant deficient in RNA binding
SO J. Virol. (1995), 69(5), 3125-33
CODEN: JOVIAJ; ISSN: 0022-538X

L10 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2002 ACS
TI PCR-based cloning of the full-length Neurospora eukaryotic initiation factor 5A cDNA: polyhistidine-tagging and overexpression for protein affinity binding
SO Biochem. J. (1994), 302(2), 517-25
CODEN: BIOOAK; ISSN: 0264-6021

L10 ANSWER 14 OF 14 SCISEARCH COPYRIGHT 2002 ISI (R)
TI Structure-function studies of human deoxythymine synthase: identification

of amino acid residues critical for the binding of spermidine and NAD

SO BIOCHEMICAL JOURNAL, (1 MAY 2001) Vol. 355, Part 3, pp. 841-849.
Publisher: PORTLAND PRESS, 59 PORTLAND PLACE, LONDON W1N 3AJ, ENGLAND.
ISSN: 0264-6021.

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L10 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2002 ACS

TI Chaperonins

RL: BPR (Biological process), BSU (Biological study, unclassified), MPM (Metabolic formation), BIOL (Biological study), FORM (Formation, nonpreparative), PROC (Process)

(FKBP4 (FK506-binding protein 4), estrogen effect on global gene expression in relation to novel targets of estrogen action)

IT Ribonucleoproteins

RL: BPR (Biological process), BSU (Biological study, unclassified), MPM (Metabolic formation), BIOL (Biological study), FORM (Formation, nonpreparative), PROC (Process)

(RBM8 (RNA-binding motif protein 8), estrogen effect on global gene expression in relation to novel targets of estrogen action)

IT Initiation factors (protein formation)

RL: BPR (Biological process), BSU (Biological study, unclassified), MPM (Metabolic formation), BIOL (Biological study), FORM (Formation, nonpreparative), PROC (Process)

(TIF (translation initiation factor), EIF5A (eukaryotic translation initiation factor 5A), estrogen effect on global gene expression in relation to novel targets of estrogen action)

IT 37259-58-8, Serine protease

RL: BPR (Biological process), BSU (Biological study, unclassified), MPM (Metabolic formation), BIOL (Biological study), FORM (Formation, nonpreparative), PROC (Process)

(MASP1 (mannan-binding lectin serine protease 1), estrogen effect on global gene expression in relation to novel targets of estrogen action)

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AB The important role played by the sex hormone estrogen in disease and

physiol. processes has been well documented. However, the mechanisms by which this hormone elicits many of its normal as well as pathol. effects are unclear. To identify both known and unknown genes that are regulated by or associated with estrogen action, the authors performed serial anal. of gene expression on estrogen-responsive breast cancer cell lines after exposure to this hormone. The authors expand approx. 190,000 mRNA transcripts and

monitored the expression behavior of 12,550 genes. Expression levels for the vast majority of those transcripts were stable to remain constant upon 17 beta-estradiol (E2) treatment. Only approx. 4% of the genes showed an increase in expression of, approx. 3-fold by 3 h post-E2 treatment. The authors cloned five novel genes (E2IG1-5), which were induced, up-regulated by the hormonal treatment. Of these the most highly induced transcript, E2IG1, appears to be a novel member of the family of small heat shock proteins. The E2IG4 gene is a new member of the large family of leucine-rich repeat-containing proteins. On the basis of architectural and domain homol., this gene appears to be a good candidate for secretion in

the extracellular environment and, therefore, may play a role in breast tissue remodeling and/or epithelium-stroma interactions. Several interesting genes with a potential role in the regulation of cell cycle progression were also identified to increase in expression, including Pectadillo and chaperonin CCT2. Two putative paracrine/autocrine factors of potential importance in the regulation of the growth of breast cancer cells were identified to be highly up-regulated by E2: stanniocalcin 2, a calcium/phosphate homeostatic hormone, and inhibin-beta B, a TGF-beta-like factor. Interestingly, the authors also ded. that E2IG1 and stanniocalcin 2 were exclusively overexpressed in estrogen-receptor-positive breast cancer lines, and thus they have the potential to serve as breast cancer biomarkers. This data provides a comprehensive view of the changes induced by E2 on the transcriptional program of human E2-responsive cells, and it also identifies novel and previously unsuspected gene targets whose expression is affected by this hormone.

=>

=> s eif and myc

COMMAND INTERRUPTED

4 FILES SEARCHED...

L11 175 EIF AND MYC

If this message appears repeatedly, please notify the Help Desk.

Enter "HELP STN" for information on contacting the nearest STN Help Desk by telephone or via SEND in the STNMAIL file.

=>

=> s estrogen receptor

COMMAND INTERRUPTED

L12 71521 ESTROGEN RECEPTOR

If this message appears repeatedly, please notify the Help Desk.

Enter "HELP STN" for information on contacting the nearest STN Help Desk by telephone or via SEND in the STNMAIL file.

=> s 112 and myc

COMMAND INTERRUPTED

L13 720 L12 AND MYC

If this message appears repeatedly, please notify the Help Desk.

Enter "HELP STN" for information on contacting the nearest STN Help Desk by telephone or via SEND in the STNMAIL file.

=> s 113 and fusion

COMMAND INTERRUPTED

L14 119 L13 AND FUSION

If this message appears repeatedly, please notify the Help Desk.

Enter "HELP STN" for information on contacting the nearest STN Help Desk by telephone or via SEND in the STNMAIL file.

=> s estrogen receptor (w) myc (w) fusion protein

COMMAND INTERRUPTED

L15 8 ESTROGEN RECEPTOR (W) MYC (W) FUSION PROTEIN

If this message appears repeatedly, please notify the Help Desk.

Enter "HELP STN" for information on contacting the nearest STN Help Desk by telephone or via SEND in the STNMAIL file.

=> dup rem 115

PROCESSING COMPLETED FOR L15

L16 2 DUP REM L15 (6 DUPLICATES REMOVED)

=> d 1-2

L16 ANSWER 1 OF 2 MEDLINE

AN 94067095 MEDLINE

DN 94067095 PubMedID: 8246956

TI Elevated levels of cyclin D1 protein in response to increased expression of eukaryotic initiation factor 4E.

AU Rosenwald I B, Lazarus A, Schenberg N, Schmidt E V

CS Massachusetts General Hospital Cancer Center, Charlestown 02129.
 SO MOLECULAR AND CELLULAR BIOLOGY, (1993 Dec) 13 (12) 735-738.
 Journal code: 8109087, ISSN: 0270-7306.
 DT United States
 DT Journal: Article, (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 BM 199401
 ED Entered STN: 19940201
 Last Updated on STN: 19980206
 Entered Medicine: 19940103

L16 ANSWER 2 OF 2 MEDLINE DUPLICATE 2
 AN 93317645 MEDLINE
 DN 93317645 PubMed ID: 8327497
 TI Increased expression of eukaryotic translation initiation factors eIF-4E and eIF-2 alpha in response to growth induction by c-myc.
 AU Rosenwald I B; Rhoads D B; Callahan L D; Iselbacher K J; Schmidt E V
 CS Department of Pediatrics, Harvard Medical School, Charlestown, MA 02129.
 NC DK 01392 (NIDDK)
 SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1993 Jul 1) 90 (13) 6175-8.
 Journal code: 7305876, ISSN: 0027-8424.
 CY United States
 DT Journal: Article, (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 BM 199308
 ED Entered STN: 19930820
 Last Updated on STN: 19930820
 Entered Medicine: 19930806

=> 4 myc(S) fusion protein
 COMMAND INTERRUPTED
 L17 742 MYC(S) FUSION PROTEIN
 If this message appears repeatedly, please notify the Help Desk.
 Enter "HELP STN" for information on contacting the nearest STN Help Desk by telephone or via SEND in the STNMAL file.

=> 4 myc(S) fusion protein (S)(estrogen or oestrogen)
 COMMAND INTERRUPTED
 L18 83 MYC(S) FUSION PROTEIN (S)(ESTROGEN OR OESTROGEN)
 If this message appears repeatedly, please notify the Help Desk.
 Enter "HELP STN" for information on contacting the nearest STN Help Desk by telephone or via SEND in the STNMAL file.

=> dup rem l18
 PROCESSING COMPLETED FOR L18
 L19 28 DUP REM L18 (55 DUPLICATES REMOVED)
 => d 1:28 ti

L19 ANSWER 1 OF 28 CAPLUS COPYRIGHT 2002 ACS
 TI Methods for defining MYC target genes, and of inducing or repressing expression of MYC target genes, and uses in diagnosis, therapy and drug screening

L19 ANSWER 2 OF 28 MEDLINE DUPLICATE 1
 TI Notch1C partially replaces EBN2A function in B cells immortalized by Epstein-Barr virus.

L19 ANSWER 3 OF 28 MEDLINE DUPLICATE 2

TI Myc represses the p21(WAF1/CIP1) promoter and interacts with Sp1/Sp3.
 L19 ANSWER 4 OF 28 CAPLUS COPYRIGHT 2002 ACS
 TI Myc drives apoptosis in PC12 cells in the absence of Max

L19 ANSWER 5 OF 28 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 TI c-Myc regulates insulin and somatostatin expression in human endocrine-cell lines.

L19 ANSWER 6 OF 28 MEDLINE DUPLICATE 3
 TI Differential activity of conditional MYC and its variant MYC-S in human morral fibroblasts.

L19 ANSWER 7 OF 28 MEDLINE DUPLICATE 4
 TI v-Jun overrides the mitogen dependence of S-phase entry by deregulating retinoblastoma protein phosphorylation and E2F-pocket protein interactions as a consequence of enhanced cyclin E-cdk2 catalytic activity.

L19 ANSWER 8 OF 28 MEDLINE DUPLICATE 5
 TI c-Myc antagonizes the effect of p53 on apoptosis and p21WAF1 transactivation in K562 leukemia cells.

L19 ANSWER 9 OF 28 MEDLINE DUPLICATE 6
 TI Regulation of the resident chromosomal copy of c-myc by c-Myc is involved in myeloid leukemogenesis.

L19 ANSWER 10 OF 28 MEDLINE DUPLICATE 7
 TI Activated Notch1 modulates gene expression in B cells similarly to Epstein-Barr viral nuclear antigen 2.

L19 ANSWER 11 OF 28 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 TI Enhanced expression of c-MYC in primary hematopoietic cells promotes proliferation, induces apoptosis, and inhibits differentiation independent of the p27KIP1/cyclin D2 pathway.

L19 ANSWER 12 OF 28 MEDLINE DUPLICATE 8
 TI Myc and YY1 mediate activation of the Surf-1 promoter in response to serum growth factors.

L19 ANSWER 13 OF 28 MEDLINE DUPLICATE 9
 TI Deregulated c-myc expression in quiescent CHO cells induces target gene transcription and subsequent apoptotic phenotype.

L19 ANSWER 14 OF 28 MEDLINE DUPLICATE 9
 TI Identification of BSAP (Pax-5) target genes in early B-cell development by loss- and gain-of-function experiments.

L19 ANSWER 15 OF 28 MEDLINE DUPLICATE 10
 TI Regulation of c-myc expression by Ras/Raf signalling.

L19 ANSWER 16 OF 28 MEDLINE DUPLICATE 11
 TI Myc represses transcription of the growth arrest gene gas1.

L19 ANSWER 17 OF 28 MEDLINE DUPLICATE 12
 TI Inactivation of a c-Myc/estrogen receptor fusion protein in transformed primary cells leads to granulocyte/macrophage differentiation and down regulation of c-kit but not c-myc or cdk2.

L19 ANSWER 18 OF 28 MEDLINE DUPLICATE 13
 TI Myc activation of cyclin E/cdk2 kinase involves induction of cyclin B gene transcription and inhibition of p27(Kip1) binding to newly formed

complexes.
 L19 ANSWER 19 OF 28 CAPLUS COPYRIGHT 2002 ACS
 TI Retinoic acid receptor and its mutants

L19 ANSWER 20 OF 28 CAPLUS COPYRIGHT 2002 ACS
 TI The Myc negative autoregulation mechanism requires Myc-Max association and involves the c-myc P2 minimal promoter

L19 ANSWER 21 OF 28 MEDLINE DUPLICATE 14
 TI Myc-Max heterodimers activate a DEAD box gene and interact with multiple E box-related sites in vivo.

L19 ANSWER 22 OF 28 MEDLINE DUPLICATE 15
 TI Modulation of c-Myc activity and apoptosis in vivo.

L19 ANSWER 23 OF 28 MEDLINE DUPLICATE 16
 TI Overexpression of the c-Myc oncoprotein blocks the growth-inhibitory response but is required for the mitogenic effects of transforming growth factor beta 1.

L19 ANSWER 24 OF 28 MEDLINE DUPLICATE 17
 TI A modified oestrogen receptor ligand-binding domain as an improved switch for the regulation of heterologous proteins.

L19 ANSWER 25 OF 28 MEDLINE DUPLICATE 18
 TI Elevated levels of cyclin D1 protein in response to increased expression of eukaryotic initiation factor 4E.

L19 ANSWER 26 OF 28 MEDLINE DUPLICATE 19
 TI Increased expression of eukaryotic translation initiation factors eIF-4E and eIF-2 alpha in response to growth induction by c-myc.

L19 ANSWER 27 OF 28 MEDLINE DUPLICATE 20
 TI Overexpression of Mos, Ras, Src, and Fos inhibits mouse mammary epithelial cell differentiation.

L19 ANSWER 28 OF 28 MEDLINE DUPLICATE 21
 TI Activation of an inducible c-FosER fusion protein causes loss of epithelial polarity and triggers epithelial-fibroblastoid cell conversion.

=> d 4 ab

L19 ANSWER 4 OF 28 CAPLUS COPYRIGHT 2002 ACS
 AB A conditionally active chimeric form of the c-Myc protein fused to the ligand-binding domain of the estrogen receptor (MycER) was expressed in PC12 cells. Induction of Myc activity resulted in a threefold increase in apoptosis after 5 days when cells were maintained in 1% serum. The effect of Myc over-expression was dependent on its DNA-binding domain but not on its heterodimeric binding protein Max, which is absent in PC12 cells. Preincubation of the c-Myc overexpressing cells with either NGF or bFGF, but not EGF, prevented the Myc-mediated increase in apoptosis, although the signaling pathways used by NGF and bFGF to block cell death differed. NGF-mediated rescue was mediated by the phosphatidylinositol 3-OH kinase/Akt pathway while rescue by bFGF was not affected by p13 kinase inhibitors. These results show that Myc can induce apoptosis in PC12 cells in a Max-independent manner and that alternate signaling pathways exist to mediate cell survival.

=> d 4 kwic
 L19 ANSWER 4 OF 28 CAPLUS COPYRIGHT 2002 ACS
 IT Fusion proteins (chimeric proteins)
 RL BOC (Biological occurrence); BPR (Biological process); BSU
 (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC
 (Process)
 (MYCER (c-myc protein -estrogen receptor);
 Myc drives apoptosis in PC12 pheochromocytoma cells in absence
 of Max)

=> d 4
 L19 ANSWER 4 OF 28 CAPLUS COPYRIGHT 2002 ACS
 AN 2001:506431 CAPLUS
 DN 135:240018
 TI Myc drives apoptosis in PC12 cells in the absence of Max
 AU Wert, M.; Kennedy, S.; Palfray, H. C.; Hay, N.
 CS Department of Neurobiology, Pharmacology and Physiology, University
 of Chicago, Chicago, IL, 60637, USA
 SO Oncogene (2001), 20(28), 3746-3750
 CODEN: ONCNGS, ISSN: 0950-9232
 PB Nature Publishing Group
 DT Journal
 LA English
 RE CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR
 THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 16 au ti so ab
 L19 ANSWER 16 OF 28 MEDLINE
 AU Lee T. C. L.; Philipson L.; Ziff E. B.
 TI Myc represses transcription of the growth arrest gene gas1
 SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF
 THE UNITED STATES OF AMERICA, (1997 Nov 25) 94 (24) 12886-91.
 Journal code: 7505876, ISSN: 0027-8424.

AB Cell proliferation is regulated by the induction of growth promoting genes
 and the suppression of growth inhibitory genes. Malignant growth can
 result from the altered balance of expression of these genes in favor of
 cell proliferation. Induction of the transcription factor, c-Myc
 , promotes cell proliferation and transformation by activating growth
 promoting genes, including the ODC and cdc25A genes. We show that c-
 Myc transcriptionally represses the expression of a growth arrest
 gene, gas1. A conserved Myc structure, Myc box 2, is
 required for repression of gas1, and for Myc induction of
 proliferation and transformation, but not for activation of ODC.
 Activation of a Myc-estrogen receptor fusion
 protein by 4-hydroxytamoxifen was sufficient to repress gas1 gene
 transcription. These findings suggest that transcriptional repression of
 growth arrest genes, including gas1, is one step in promotion of cell
 growth by Myc.

=> s mycER
 COMMAND INTERRUPTED
 L20 181 MYCER
 If this message appears repeatedly, please notify the Help Desk.
 Enter "HELP STN" for information on contacting the nearest STN Help
 Desk by telephone or via SEND in the STNMAL file.
 => dup rem

ENTER L# LIST OR (END):L20
 PROCESSING COMPLETED FOR L20
 L21 58 DUP REM L20 (123 DUPLICATES REMOVED)
 => s mycER/;
 L22 6 MYCER/IT
 If this message appears repeatedly, please notify the Help Desk.
 Enter "HELP STN" for information on contacting the nearest STN Help
 Desk by telephone or via SEND in the STNMAL file.
 => dup rem L22
 PROCESSING COMPLETED FOR L22
 L23 2 DUP REM L22 (4 DUPLICATES REMOVED)
 => d 1-2

L23 ANSWER 1 OF 2 MEDLINE
 AN 2001:62321 MEDLINE
 DN 20162321 Published ID: 10698495
 TI Sensitivity to myc-induced apoptosis is retained in spontaneous and
 transplanted lymphomas of CD2-mycER mice.
 AU Blyth K.; Stewart M.; Bell M.; James G.; Evan G.; Neil J. C.; Cameron E. R.
 CS Molecular Oncology Laboratory, University of Glasgow Veterinary
 School, Bearsden,
 SO ONCOGENE, (2000 Feb 10) 19 (6) 773-82.
 Journal code: 8711562, ISSN: 0950-9232.
 CY ENGLAND: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 200003
 ED Entered STN: 20000327
 Last Updated on STN: 20000327
 Entered Medicine: 20000316

L23 ANSWER 2 OF 2 MEDLINE
 AN 9702566 MEDLINE
 DN 9702566 Published ID: 8871825
 TI Genomic instability in MycER-activated Rat1A-MycER
 cells.
 AU Mai S.; Fluri M.; Swarski D.; Huppi K.
 CS Manitoba Institute of Cell Biology, Winnipeg, Canada.
 SMAI/OCC,UMANTITOA CA
 SO CHROMOSOME RESEARCH, (1996 Aug) 4 (5) 365-71.
 Journal code: 9313452, ISSN: 0967-3849
 CY ENGLAND: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199701
 ED Entered STN: 19970219
 Last Updated on STN: 19970219
 Entered Medicine: 19970123

=> d his
 (FILE HOME ENTERED AT 15:35:12 ON 12 JUN 2002)
 FILE MEDLINE, BIOSIS, CAPLUS, SCISEARCH, EMBASE ENTERED
 AT 15:35:29 ON
 12 JUN 2002
 L1 68940 S MYC
 L2 146 S EIF5A
 L3 1 S L1 AND L2

L4 0 S EIF5A AND LIGAND BINDING DOMAIN
 L5 1 S EIF5A AND LIGAND BINDING DOMAIN
 L6 1 S EIF5A AND BINDING DOMAIN
 L7 146 S EIF5A
 L8 1 S L7 AND LIGAND
 L9 79 DUP REM L7 (67 DUPLICATES REMOVED)
 L10 14 S L9 AND BIND/
 L11 175 S EIF7 AND MYC
 L12 71521 S ESTROGEN RECEPTOR
 L13 720 S L12 AND MYC
 L14 119 S L13 AND FUSION
 L15 8 S ESTROGEN RECEPTOR (W) MYC (W) FUSION PROTEIN
 L16 742 S MYC(S)FUSION PROTEIN
 L17 83 S MYC(S)FUSION PROTEIN (S)ESTROGEN OR
 L18 28 DUP REM L18 (55 DUPLICATES REMOVED)
 L19 181 S MYCER
 L20 58 DUP REM L20 (123 DUPLICATES REMOVED)
 L21 6 S MYCER/IT
 L22 2 DUP REM L22 (4 DUPLICATES REMOVED)
 L23

=> s l21 and (gene regulat?)
 COMMAND INTERRUPTED
 REENTER FILE MEDLINE, BIOSIS, CAPLUS, SCISEARCH, EMBASE
 AND TRY AGAIN, OR ENTER ? FOR MORE INFORMATION.
 QUERY PROCESSING INTERRUPTED
 The system was temporarily unable to process your query. If this
 message appears repeatedly, please notify the Help Desk. Enter "HELP
 STN" for information on contacting the nearest STN Help Desk by
 telephone or via SEND in the STNMAL file.

=> file medicine biosis caplus scisearch
 COST IN U.S. DOLLARS
 FULL ESTIMATED COST ENTRY SESSION
 200 28 200 49

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE
 FILE TOTAL ENTRY SESSION
 -1.24 -1.24

FILE MEDLINE ENTERED AT 17:11:38 ON 12 JUN 2002
 FILE BIOSIS ENTERED AT 17:11:38 ON 12 JUN 2002
 COPYRIGHT (C) 2002 BIOLOGICAL ABSTRACTS INC.(R)
 FILE CAPLUS ENTERED AT 17:11:38 ON 12 JUN 2002
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER
 AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)
 FILE SCISEARCH ENTERED AT 17:11:38 ON 12 JUN 2002
 COPYRIGHT (C) 2002 Institute for Scientific Information (ISI) (R)

=> s l21 and regular?
 L24 37 L21 AND REGULAR?
 => d 10-20 ti so
 L24 ANSWER 10 OF 37 MEDLINE
 TI Reversible activation of c-Myc in thymocytes enhances positive selection
 and induces proliferation and apoptosis in vitro.
 SO ONCOGENE, (2000 Apr 6) 19 (15) 1891-990.
 Journal code: 8711562, ISSN: 0950-9232.

L24 ANSWER 11 OF 37 MEDLINE
 TI Sensitivity to myc-induced apoptosis is retained in spontaneous and transplanted lymphomas of CD2-mycER mice.
 SO ONCOGENE. (2000 Feb 10) 19 (6) 773-82.
 Journal code: 8711562. ISSN: 0950-9232.

L24 ANSWER 12 OF 37 MEDLINE
 TI Deregulated c-myc expression in quiescent CHO cells induces target gene transcription and subsequent apoptotic phenotype.
 SO CELL RESEARCH. (1999 Dec) 9 (4) 305-14.
 Journal code: 9425763. ISSN: 1001-0602.

L24 ANSWER 13 OF 37 MEDLINE
 TI A full-length c-Ha1 gene product perturbs T-cell development and promotes lymphomagenesis in synergy with myc.
 SO ONCOGENE. (1999 Nov 25) 18 (50) 7124-34.
 Journal code: 8711562. ISSN: 0950-9232.

L24 ANSWER 14 OF 37 MEDLINE
 TI Reversible activation of c-Myc in skin: induction of a complex neoplastic phenotype by a single oncogenic lesion.
 SO MOLECULAR CELL. (1999 May) 3 (5) 565-77.
 Journal code: 9802571. ISSN: 1097-2765.

L24 ANSWER 15 OF 37 MEDLINE
 TI The *trp* gene, encoding a membrane protein, is a c-Myc target with a tumorigenic activity.
 SO MOLECULAR AND CELLULAR BIOLOGY. (1999 May) 19 (5) 3529-39.
 Journal code: 8109087. ISSN: 0270-7306.

L24 ANSWER 16 OF 37 MEDLINE
 TI c-myc-enhanced S phase entry in keratinocytes is associated with positive and negative effects on cyclin-dependent kinases.
 SO JOURNAL OF CELLULAR BIOCHEMISTRY. (1998 Sep 15) 70 (4) 528-42.
 Journal code: 8205768. ISSN: 0730-2312.

L24 ANSWER 17 OF 37 MEDLINE
 TI Direct evidence that apoptosis enhances tumor responses to fractionated radiotherapy.
 SO CANCER RESEARCH. (1998 May 1) 58 (9) 1779-84.
 Journal code: 2984705R. ISSN: 0008-5472.

L24 ANSWER 18 OF 37 MEDLINE
 TI Involvement of CPP32/Caspase-3 in c-Myc-induced apoptosis.
 SO ONCOGENE. (1998 Jan 22) 16 (3) 387-98.
 Journal code: 8711562. ISSN: 0950-9232.

L24 ANSWER 19 OF 37 MEDLINE
 TI Regulation of ornithine decarboxylase induction by deguelin, a natural product cancer chemopreventive agent.
 SO CANCER RESEARCH. (1997 Aug 15) 57 (16) 3429-35.
 Journal code: 2984705R. ISSN: 0008-5472.

L24 ANSWER 20 OF 37 MEDLINE
 TI Myc represses the growth arrest gene *gadd45*.
 SO ONCOGENE. (1997 Jun 12) 14 (23) 2825-34.
 Journal code: 8711562. ISSN: 0950-9232.

=> d 20 ab

L24 ANSWER 20 OF 37 MEDLINE
 AB The c-Myc protein strongly stimulates cellular proliferation, inducing cells to exit G0/G1 and enter the cell cycle. At a molecular level, Myc

prevents growth arrest and drives cell cycle progression through the transcriptional regulation of Myc-target genes. Expression of the growth arrest and DNA damage inducible gene 45 (*gadd45*) is elevated in response to DNA damaging agents, such as ionizing radiation via a p53-dependent mechanism, upon nutrient deprivation, or during differentiation. *Gadd45* holds a vital role in growth arrest as ectopic expression confers a strong block to proliferation. Exposure of quiescent cells to mitogen stimulates a rapid increase in c-Myc expression which is followed by the subsequent reduction in *gadd45* expression. The kinetics of these two regulatory events suggest that Myc suppresses the expression of *gadd45*, contributing to G0/G1 phase exit of the cell cycle. Indeed, ectopic Myc expression in primary and immortalized fibroblasts results in the suppression of *gadd45* mRNA levels, by a mechanism which is independent of cell cycle progression. Using an inducible MycER system, rapid suppression of *gadd45* mRNA is first evident approximately 0.5 h following Myc activation. The reduction in *gadd45* mRNA expression occurs at the transcriptional level and is mediated by a p53-independent pathway. Moreover, Myc suppression and p53 induction of *gadd45* following exposure to ionizing radiation are non-competitive co-regulatory events. Myc suppression of *gadd45* defines a novel pathway through which Myc promotes cell cycle entry and prevents growth arrest of transformed cells.

=> d 21-29 ti so

L24 ANSWER 21 OF 37 MEDLINE
 TI The Myc negative autoregulation mechanism requires Myc-Max association and involves the c-myc P2 minimal promoter.
 SO MOLECULAR AND CELLULAR BIOLOGY. (1997 Jan) 17 (1) 100-14.
 Journal code: 8109087. ISSN: 0270-7306.

L24 ANSWER 22 OF 37 MEDLINE
 TI Sensitivity to transforming growth factor beta 1-induced growth arrest is common in human squamous cell carcinoma cell lines: c-MYC down-regulation and p21^{waf1} induction are important early events.
 SO CELL GROWTH AND DIFFERENTIATION. (1996 Oct) 7 (10) 1291-304.
 Journal code: 9100024. ISSN: 1044-9523.

L24 ANSWER 23 OF 37 MEDLINE
 TI Genomic instability in MycER-activated Rat1A-MycER cells.
 SO CHROMOSOME RESEARCH. (1996 Aug) 4 (5) 365-71.
 Journal code: 9313452. ISSN: 0967-3849.

L24 ANSWER 24 OF 37 MEDLINE
 TI Expression of cyclin D1 mRNA is not upregulated by Myc in rat fibroblasts.
 SO ONCOGENE. (1995 Nov 2) 11 (9) 1893-7.
 Journal code: 8711562. ISSN: 0950-9232.

L24 ANSWER 25 OF 37 MEDLINE
 TI Generation of cell lines from embryonic quail retina capable of mature neuronal differentiation.
 SO JOURNAL OF NEUROSCIENCE RESEARCH. (1995 Jul 1) 41 (4) 427-42.
 Journal code: 7600111. ISSN: 0360-4012.

L24 ANSWER 26 OF 37 MEDLINE
 TI Myc induces cyclin D1 expression in the absence of de novo protein synthesis and links mitogen-stimulated signal transduction to the cell cycle.
 SO ONCOGENE. (1994 Dec) 9 (12) 363-545.

Journal code: 8711562. ISSN: 0950-9232.

L24 ANSWER 27 OF 37 MEDLINE
 TI c-Myc induces cellular susceptibility to the cytotoxic action of TNF-alpha.
 SO EMBIO JOURNAL. (1994 Nov 15) 13 (22) 2442-50.
 Journal code: 8208664. ISSN: 0261-4189.

L24 ANSWER 28 OF 37 MEDLINE
 TI Differentiation primary response genes and proto-oncogenes as positive and negative regulators of terminal hematopoietic cell differentiation.
 SO STEM CELLS. (1994 Jul) 12 (4) 352-69. Ref: 117
 Journal code: 9304532. ISSN: 1066-5099.

L24 ANSWER 29 OF 37 MEDLINE
 TI Differential modulation of cyclin gene expression by MYC.
 SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA. (1993 Apr 15) 90 (8) 3685-9.
 Journal code: 7505876. ISSN: 0027-8424.

=> d 20 au ti so

L24 ANSWER 20 OF 37 MEDLINE
 AU Martin W W; Chen S; Facchini L M; Fornace A J Jr; Penn L Z
 TI Myc represses the growth arrest gene *gadd45*.
 SO ONCOGENE. (1997 Jun 12) 14 (23) 2825-34.
 Journal code: 8711562. ISSN: 0950-9232.

=> log off
 ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF LOGOFF? (Y/N)/HOLD Y
 STN INTERNATIONAL LOGOFF AT 17:21:54 ON 12 JUN 2002